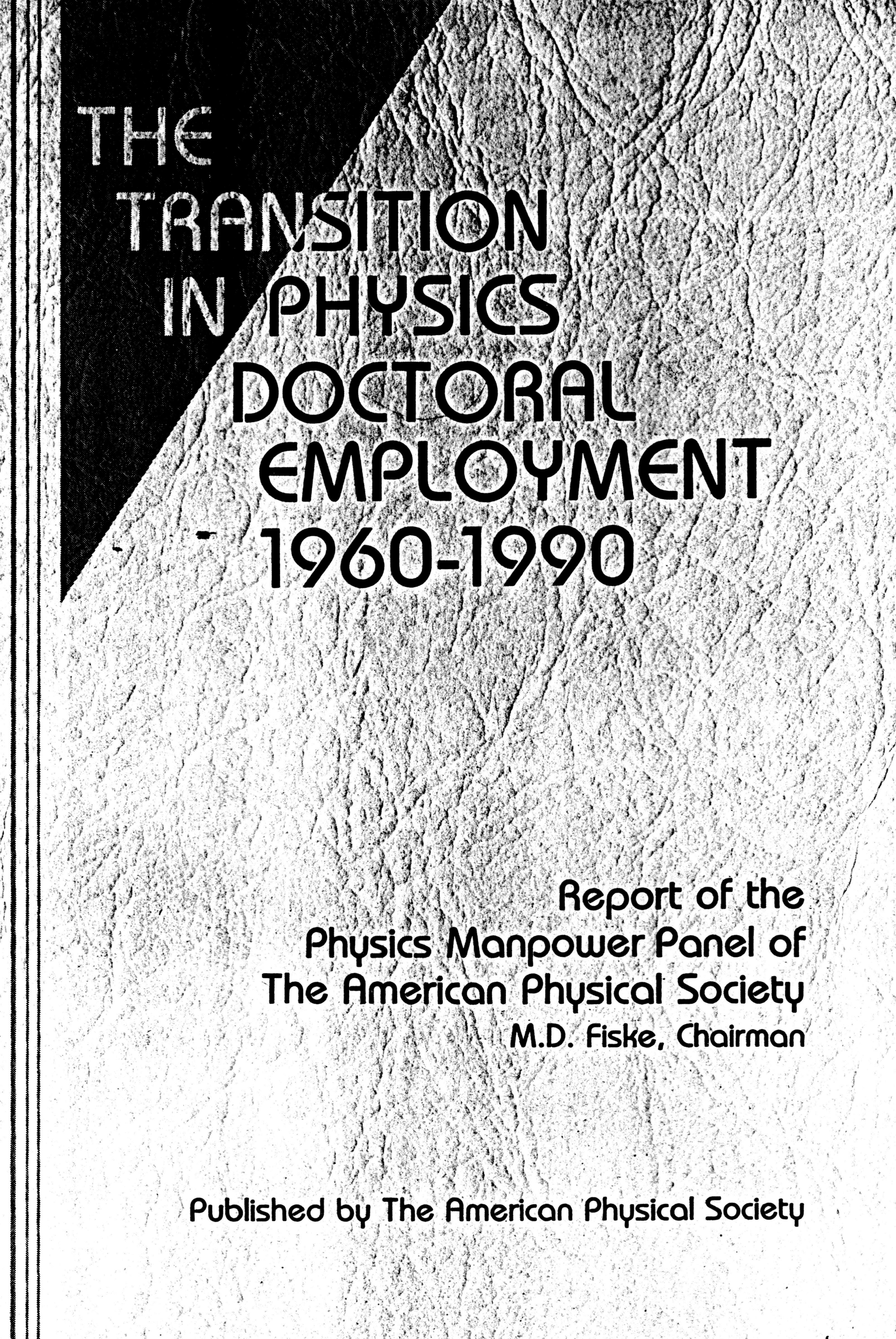

THE TRANSITION IN PHYSICS DOCTORAL EMPLOYMENT 1960-1990

Report of the
Physics Manpower Panel of
The American Physical Society
M.D. Fiske, Chairman

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INTRODUCTION

The decade of the 70's has been a time of turmoil and transition for the support of physics and physicists, especially of young physicists just completing their graduate years. Science, the Endless Frontier, had come to have financial horizons quite close in during the late 60's and early 70's. A whole generation of physicists had become accustomed to automatic careers, in which demand so much exceeded supply that the greatest problem was to choose among desirable alternatives. The great expansion of higher education had created limitless opportunities in the mode most familiar to the graduate student, and academic research - perforce with some teaching - became the normal career goal.

There were warnings in the 60's and plenty of signs (especially to the retrospective eye) that the days of glory were limited, but demography and the federal budget finally broke the spell. It suddenly appeared that there weren't enough babies to fill, some years ahead, classrooms already built and since science hadn't done anything for the country lately, wise heads in Washington decided federal largesse should be diverted to more pressing demands. The cutback in federal funding of research had really started in 1967 or so, but its impact was clear and present by 1970.

The Council of the American Physical Society in 1969 established the ad hoc Economic Concerns Committee, chaired by Lee Grodzins of M.I.T., to gather the facts on the employment situation in physics, particularly of new PhD's, and to make projections of future employment. A series of reports by the Committee and by Grodzins documented the seriousness of the situation and forecast the lean times ahead which the physics community has experienced through the 70's. There followed an increasing involvement of APS in matters much more concerned with professional aspects, public policy, and employment of physicists than had traditionally been the case. New instruments were created: the standing Committee on Professional Concerns, the Panel on Public Affairs, the Committee on the Application of Physics; recently, the Congressional Fellowships and the Industrial Fellowships, and in 1976, the Physics Manpower Panel.

By the mid-70's the initial trauma had passed and it had become clear that a permanent or at least long-lasting change had occurred: future growth in physics employment would lie mostly outside academe, in directions not too well seen, in